may require 22- and 19-gauge cable, are developed as if they were on fiber-based systems. These assumptions dramatically inure to the benefit of CLECs.

37. SBC has conducted xDSL loop studies using the same loop cost model. These xDSL studies assume that no DLC equipment is used because it conflicts with the xDSL signal. These cost studies are probably more reflective of the actual loop deployment in SBC's network. The cost results from these studies are substantially higher than the results of the UNE loop studies, which assume the widespread use of DLC equipment with fiber.

38. The Missouri UNE loop study, which is the basis for the M2A rates, further illustrates this point. Because of SBC's forward-looking assumptions, which include a copper/fiber crossover point when copper cable is included in the study, the study only assumes 26- and 24-gauge cable. The study ignores the more expensive 19- and 22-gauge cable. This assumption further distinguishes the TELRIC UNE loop study from the existing loop network, again to the benefit of CLECs.

39. The MPSC Staff also recognized in the Costing and Pricing Report (at 21), that SWBT's loop cost studies do not mimic the existing network. Staff stated: "[the economic 15 kft fiber/copper crossover point] assumption does represent a significant departure from the actual network in place today. For example in the rural rate Zone 3, this assumption results in over 33 percent of the feeder being provisioned with fiber optic cable while in reality only about 6 percent are currently provisioned with fiber." Both AT&T and WorldCom neglect to cite this language when criticizing the Staff's scrutiny of SWBT's cost study.

Forward-Looking Cable Investment in the Loop Cost Studies

40. Another incorrect assumption made by AT&T and WorldCom is that SBC uses embedded cable costs in its loop study. SBC used the 1996 "Broadgauge" cable investment manual as the basis for the cable prices in the loop study. This was the latest "Broadgauge" manual available when the loop study was conducted. The "Broadgauge" cable investment manual is developed annually and includes the current vendor contracts for outside plant cable. "Broadgauge" also includes the telco labor for placement and splicing. SWBT also adds the contractor labor based on the latest contracts in place with the companies who trench and place cable for SWBT. The "Broadgauge" is used by outside plant planning personnel to estimate the costs of construction jobs.

41. The "Broadgauge" manual includes cable prices for every cable size, which includes aerial, buried, and underground cable. These cable sizes can range from as small as 25 pair (used in distribution), to 4,200 pair, which is typically used in a feeder plant. A practical problem in the loop study is how to develop the cost of an average loop based on all these different pair sizes of cable. SBC keeps records of the types and amounts of cable placed in its network. This inventory, used with the current "Broadgauge" costs for cable, was used to help develop the average cost per pair foot for feeder and distribution.

42. The Staff discussed the "Distribution to Code" cable weightings in its Costing and Pricing Report (at 16-17). Staff made adjustment to these percentages, reducing the percentage of aerial cable to ** **. Staff also made other adjustments as shown in the chart on page 17, which they believed reflected a more forward-looking network.

Again, AT&T and WorldCom selectively cite the Staff's language when they criticize SWBT's cost studies.

SBC's Loop Studies Correctly Consider Tapering of Feeder and Distribution Cable

43. AT&T also alleges that SBC's loop studies do not take into account the tapering of cable, allegedly making them not compliant with TELRIC.[14] This allegation is the result of another misunderstanding of how SBC's loop studies are conducted. SBC accounts for cable tapering by weighting the different sizes of cable to develop an average pair foot investment for the loop study. For example, a feeder cable may consist of a 4,200 pair cable leaving the central office cable vault, which gradually tapers down to a 600 pair cable at the Feeder Distribution Interface ("FDI"). All of the cable sizes and their corresponding lengths from the company inventory of cable are used in the calculation of the average pair foot investment for the total cable including feeder and distribution. The FDI inventory is then used to determine what cable sizes are part of the feeder cable. The residual is assumed to be distribution cable. However, because the entire inventory of cable sizes is used as a starting point to determine the average cost per pair foot for the entire cable, any feeder cable sizes not included because of the FDI methodology would then become part of the distribution cable. Because of this methodology, I believe the feeder cable is slightly overstated and the distribution cable is slightly understated, evidencing no error by the MPSC and certainly no violation of TELRIC principles.

[14] The DOJ, again relying on AT&T's and WorldCom's evaluations, indicated that another "possible error[] that may have affected Missouri loop prices include[s] the failure to allow for tapering of feeder cable." DOJ Evaluation at 16. As discussed, this is not the case.

SBC's Loop Distribution Fill Is TELRIC-Compliant and Based on Forward-Looking Information

44. WorldCom and AT&T state that the Missouri loop rates are not TELRIC-complaint because the distribution fill is too low. Notably, neither AT&T, nor the DOJ, nor WorldCom provides any justification for proposing higher fill factors in Missouri.[15] In Missouri, SWBT proposed actual fill factors for distribution cable based on current levels of total capacity. The MPSC disagreed with SWBT's proposal and insisted on a higher fill factor. This fill factor is forward-looking because in the future, the methods for sizing and placing distribution cable remain the same, resulting in distribution fill factors that remain consistent with what is being experienced today in the network.

45. In addition, AT&T's and WorldCom's reliance on the FCC's synthesis model is misplaced. The fill factor in the synthesis model is but one component of an inappropriate study. Absent evidence, of which there is none, that the MPSC improperly determined the fill factor, the synthesis model is inapplicable to this analysis. Finally, the Texas Public Utilities Commission approved a 40 percent fill factor in Texas, as discussed below.

46. The FCC's Local Competition Order addresses fill factors in paragraph 682:

> We conclude that, under a TELRIC methodology, incumbent LECs' prices for interconnection and unbundled network elements shall recover the forward-looking costs directly attributable to the specified element, as well as a reasonable allocation of forward-looking common costs. Per-unit costs shall be derived from total costs using reasonably accurate "fill factors" (estimates of the proportion of a facility that will be "filled" with

[15] In its Evaluation Report, DOJ suggests that "[a]lthough the Missouri PSC modified SBC's [fill factor] proposals, the asset lives chosen are significantly shorter than those used (both by the Missouri PSC and other state commissions) in other proceedings." DOJ Evaluation at 16.

> network usage); that is, the per-unit costs associated with a particular element must be derived by dividing the total cost associated with the element by a reasonable projection of the actual usage of the element. Directly attributable forward-looking costs include the incremental costs of facilities and operations that are dedicated to the element. Such costs typically include the investment costs and expenses related to primary plant used to provide that element. Directly attributable forward-looking costs also include the incremental costs of shared facilities and operations. Those costs shall be attributed to specific elements to the greatest extent possible. For example, the costs of conduits shared by both transport and local loops, and the costs of central office facilities shared by both local switching and tandem switching, shall be attributed to specific elements in reasonable proportions. More broadly, certain shared costs that have conventionally been treated as common costs (or overheads) shall be attributed directly to the individual elements to the greatest extent possible. The forward-looking costs directly attributable to local loops, for example, shall include not only the cost of the installed copper wire and telephone poles but also the cost of payroll and other back office operations relating to the line technicians, in addition to other attributable costs. (Footnote omitted)

47. The FCC also "conclude[d] that the forward-looking pricing methodology for interconnection and unbundled network elements should be based on costs that assume that wire centers will be placed at the incumbent LEC's current wire center locations, but that the reconstructed local network will employ the most efficient technology for reasonably foreseeable capacity requirements." Local Competition Order, 11 FCC Rcd at 15848-49, ¶ 685.

48. Distribution plant is generally designed to serve a neighborhood. It is increasingly made up of buried cables, which are designed to be large enough to meet the ultimate needs of the serving area. The facility should be large enough so that it never needs to be augmented during its physical life. This is a simple matter of economics and service quality. If utilization (fill) runs too high, there may be a need for very expensive and disruptive additions to the distribution plant – including digging up lawns and tearing up

driveways and streets. If a distribution system exhausts, it can cause a delay in providing service to customers.

49. Design engineers, who make distribution cable sizing decisions, do not know how many lines a customer will order for their home at the time the sizing decision is made. Design engineers need to provide sufficient capacity to provide service. The economics of reinforcing exhausted distribution cables favors placing larger cables initially. In spite of this uncertainty, the fill rates for copper distribution cables have remained virtually constant over time. The distribution fill factor used in the loop study is a composite fill rate for many sizes of cables, not a specific cable. A new cable has 0 percent fill on day one and gradually increases over time.

50. It is also important to note that cables are only available in certain sizes (e.g. 25 pair, 50 pair, 100 pair, 200 pair). You simply cannot buy a 60 pair cable. Therefore if a design engineer wants to size the distribution cable at two pairs per living unit in a new 30-lot subdivision, a 100 pair cable will have to be placed. This limitation in available cable sizes affects the distribution fill factor.

51. The fill factors that result from the combination of placing for ultimate demand and the limitation of cable sizes result in distribution fills in the 30-40 percent range. These distribution fills have remained constant over time. Although this number may seem low, it is the average of a geographical zone in which some areas may experience unexpectedly large demand increases, while others may lag and never reach their expected utilization levels.

52. Although there is some increasing use of telephone lines for applications such as adding a fax machine or Internet access, these will have a modest impact on the distribution fill. With the increase in DSL, this new service could have the opposite impact of decreasing the fill. All these factors must be taken into account when plant is placed. The distribution fill remains constant over time, which means it can be used as a forward-looking fill factor, since it will be expected to be the same in the future.

53. The FCC's Local Competition Order, provides for deriving per-unit costs "by dividing the total costs associated with the element by a reasonable projection of the actual total usage of the element." Local Competition Order, 11 FCC Rcd at 15847-48, ¶ 682. SWBT studies used current "fills," or utilization levels, actually experienced in SWBT's forward-looking efficient network. It is these fills that SWBT anticipates experiencing for its network usage into the future.

54. AT&T and WorldCom state that the Staff has no basis for choosing a 40 percent fill factor for distribution. The Staff spent a great deal of time reviewing the fill assumptions in SWBT's studies, discussed, in part, above. The consideration of additional lines also impacted the ordered increase of the distribution fill factor. It should be noted that the 40 percent distribution fill ordered by the MPSC is exactly the same as what was ordered in Texas for the Texas UNE loop studies. AT&T and WorldCom do not provide any support for why the fill should be higher, only the bald and incorrect assertion that the fill factor is not forward-looking and the Synthesis Model uses something higher.

55. In the face of SWBT's Missouri-specific data, which was scrutinized by the MPSC, AT&T's opinion, one not shared and supported before the MPSC, that the fill factor should be higher lacks any foundation and should be rejected.

SBC Incorporates the Correct Amount of Pole and Conduit Sharing in Its Loop Studies

56. Yet another incorrect representation made by AT&T is that SBC does not include an appropriate amount of pole and conduit sharing in its loop studies. The Costing and Pricing Report clearly discusses this recommended modification to SWBT's loop study. The Staff adjusted the way the pole and conduit factors were developed – in addition to considering the sharing of pole and conduit investment. The recommendations for the derivation of pole and conduit investment are discussed in the Staff's Costing and Pricing Report (at 7, 18). Staff recommended determining the pole investment, less any sharing (6.41 percent), and multiplying that number by the number of poles per aerial span. The Staff also noted that SWBT's pole investment already reflects poles that are shared with Union Electric Company. See Costing and Pricing Report at 7. The same type of adjustment is made to the conduit investment to account for sharing.

Integrated Digital Loop Carrier vs. Universal Digital Loop Carrier

57. AT&T complains that the amount of IDLC assumed in the SWBT loop study, which was originally zero, and subsequently ordered at 25 percent, is too low to comply with TELRIC. Mr. Baranowski argues that the least cost, most efficient design for provisioning unbundled loops is to provision IDLC 100 percent of the time. See AT&T's Baranowski Decl. ¶ 33. To the contrary, because 100 percent IDLC provisioning is grossly inefficient and impracticable, Mr. Baranowski's proposal would violate TELRIC.

58. AT&T's position is without merit because it is founded on a misunderstanding of the basic technical architecture involved in provisioning unbundled loops.

59. Historically, network access lines were provided through a continuous transmission path over individual pairs of copper wires. Advances in digital transmission technology, coupled with the development of digital switching and an increased demand for telephone services, make it efficient to use digital transmission technology and fiber-optic facilities to provision network access. Examples of this advanced technology include Digital Loop Carrier ("DLC") systems, the use of which is most appropriate when either network congestion is a concern, or loop lengths are increased.

60. Through DLC, a large number of loops can be aggregated at a particular point in the network, such as a hut or cabinet. Individual copper loops from the customer side are connected to a remote terminal ("RT"), which converts analog signals to digital form and combines them on a single facility for transmission back to the central office. In the most forward-looking environment for provisioning unbundled loops (which is the environment reflected in SBC's loop cost studies), a fiber-optic facility connects the RT to a corresponding central office terminal ("COT"), which in turn de-multiplexes the signals through the use of plug-in circuit cards. Jumper wires then terminate each individual loop on to the main distributing frame ("MDF") at the central office. This type of configuration, which is necessary to unbundle a single loop from the DLC system, is referred to as non-integrated or universal digital loop carrier ("UDLC").

61. Unbundled loops cannot be provisioned with the IDLC equipment just described. Only a non-integrated DLC and its associated equipment can enable individual unbundled loops to be terminated on the MDF for cross connection to the CLEC. Unbundled loops cannot be extracted or "groomed" from an IDLC system without significant additional expense.

62. SBC's cost study for unbundled loops reflects these technical realities. The cost study includes costs for the RT, the COT, and the plug in UDLC circuit cards used in each terminal that allow the unbundled loops to be terminated on a non-integrated basis. Also included are the cabinets or huts housing this equipment. The forward-looking design for the provisioning of unbundled loops assumed that all loops using DLC equipment were provisioned on a non-integrated basis, thus enabling them to be readily cross connected to the MDF.

63. The MPSC ordered SWBT to assume 25 percent IDLC in its loop study. The revised loop cost study, with the Commission-ordered input for IDLC, does not include any of the additional costs incurred, such as direct labor and engineering, which are incurred when changing out the plug-in circuit cards to go from existing integrated to a non-integrated configuration. Rather than overstating forward-looking costs for the loop, the Missouri PSC's assumption of integrated DLC probably understated such costs.

The MPSC Set Appropriate Dark Fiber Costs

64. Mr. Baranowski alleges an "improper allocation of dark fiber costs to the loop rates."[16] He states that the UNE loop rates improperly include dark fiber, and the Staff did not fix the problem. He also states that the fiber fill factor is built into the conduit factor which allows SWBT to recover the conduit investment associated with unused fiber. These "problems" were clearly addressed and fixed in the Staff's Costing and Pricing Report and in SWBT's dark fiber cost study, which the Staff modified. Staff discusses the problem with the fiber fill factor, which SWBT proposed at ** **. See Costing and Pricing Report at 78. Staff recommended a fiber fill factor of 95 percent. The 5 percent spare was to account for broken fibers that could never be used. Staff addresses the "problem" with the conduit factor at page 18 of the Costing and Pricing Report, which states, "A review of the dark fiber cost studies indicated that no conduit costs are being recovered though dark fiber so the issue of double recovery does not apply." Staff made the decision to recover these costs in one place.

65. Mr. Baranowski's complaint is that the spare capacity for fiber and conduit are recovered in the loop study. The Staff's decision in this matter was appropriate because allocating spare capacity and conduit to dark fiber would only compensate SWBT for these costs if the CLECs were actually purchasing dark fiber. Dark fiber is not allocated and held in waiting for the CLECs to purchase it, it is taken from the current inventory in the SWBT network. As of this date, no CLEC in Missouri has purchased dark fiber.

[16] AT&T's Baranowski Decl. ¶ 35; see also DOJ Evaluation at 16. (In its Evaluation, DOJ suggested, without independent analysis, that other "possible errors that may have affected Missouri loop prices include . . . allocation of all conduit costs to active, rather than dark, fiber.") Again, the following discussion obviates this concern.

VII. Depreciation

66. With respect to depreciation, SWBT proposed "economic depreciation rates" as required in 47 C.F.R. § 51.505(b)(3), rather than using dated depreciation rates. The MPSC's economic depreciation rates represent the true economic value as required by the FCC.[17] In AT&T's comments, Mr. Baranowski has confused the concept of "economic depreciation."[18] All parties agree that TELRIC studies should measure the loss in economic value of an asset over time. Mr. Baranowski states that prescribed depreciation is the proper measure of economic depreciation over projected or economic depreciation (Mr. Baranowski calls this "financial accounting" depreciation), which is what SBC largely relied on, as the MPSC Staff endorsed this as being the measure of economic depreciation. SBC affiant Philip Naughton also discusses SBC's correct choice of depreciation lives in his reply affidavit.

67. Mr. Baranowski claims that prescribed lives are objectively designed for regulatory purposes. Prescribed lives have always been part of a political decision affecting local rates. Prescribed lives are not objective. Prescribed lives were considered and rejected by the MPSC Staff for a number of reasons. According to the Staff report, "the key distinction between setting depreciation rates for TELRIC purposes from depreciation rates for rate making under rate-of-return is in the selection of the life parameter of the depreciation rate equation. *Economic obsolescence* has overtaken physical deterioration

[17] See Local Competition Order, 11 FCC Rcd at 15856, ¶ 703 ("We conclude that an appropriate calculation of TELRIC will include a depreciation rate that reflects the true changes in economic value of an asset and a cost of capital that appropriately reflects the risks incurred by an investor.")

[18] In its Evaluation, DOJ questioned the MPSC's setting of depreciation rates. See DOJ Evaluation at 17.

as the primary cause of loss of value and retirements." Costing and Pricing Report at 99 (emphasis added).

68. The MPSC Staff undertook a careful and lengthy review of the depreciation lives proposed by SWBT and AT&T/MCI. The Costing and Pricing Report dedicated 17 pages to discussion of the Staff's careful review and decisions to adopt SWBT's depreciation lives, with some modifications. The Staff review included: (1) a comparison by USOA account and company composite to depreciation rates and parameters currently prescribed by the MPSC and the FCC; (2) benchmarking against implied depreciation rates calculated via financial information obtained over the Internet and through other sources available to the Commission; and (3) comparison to available information on an individual account basis. This endeavor involved both public document searches and HC information obtained by Staff's investigation.

69. The benchmarking exercise conducted by the Staff included depreciation data from AT&T, which was supplied to the Staff. The benchmarking findings indicated that: "[w]hile the implied rates indicate a large range, SWBT TELRIC depreciation rate parameter proposals put SWBT sixth from the lowest in the pool of 19 benchmarked companies. Staff's modifications reduce SWBT's composite rate even further, into or below those implied rates for the IXC group. This is the most significant contributing factor to Staff's belief that SWBT's proposed depreciation parameters as modified by Staff are reasonable." See Costing and Pricing Report at 104.

70. An egregious misrepresentation presents itself in the chart on page 13 of Mr. Baranowski's declaration. Mr. Baranowski omitted a column on the chart showing AT&T's depreciation lives for the same categories of plant. AT&T, being an efficient provider, used these depreciation lives in its own depreciation calculations. AT&T's depreciation lives validate what SWBT proposed, and were even used by the Staff as an additional justification to support SWBT's proposal. The following chart compares AT&T's lives to what SWBT proposed in TO-97-40. Additional AT&T depreciation lives are shown on DMB-4, attached to the Staff's Costing and Pricing Report.

	AT&T	UNE Missouri	Intrastate Missouri	Interstate Missouri	FCC Permitted Range
ESS Digital	** **	** **	17.5	16.0	16.0 - 18.0
Circuit Digital	** **	** **	15.0	11.0	11.0 - 13.0
Underground Metallic Cable	** **	** **	30.0	25.0	25.0 - 30.0
Buried Metallic Cable	** **	** **	28.0	20.0	20.0 - 26.0

71. Mr. Baranowski contends that SWBT relied on projection lives "it generally uses for financial reporting purposes." AT&T's Baranowski Decl. ¶ 18. However, the projection lives used for financial reporting purposes are economic lives. These financial reporting depreciation costs are the very same costs that SBC, other ILECs, CLECs, IXCs, and other firms rely upon in making sound business decisions. In the past, various firms have written off these very depreciation costs from their financial reports because of the inordinately long lives prescribed by various regulatory orders. These costs, as with any competitive firm, have a true economic impact on SWBT and its shareholders. Write-

offs such as these deter capital investment in a firm because investors obviously expect that they will recover their investments in a firm. The FCC- and state-prescribed depreciation lives may allow for some forward-looking capital recovery as AT&T suggests. However, they do not allow complete recovery of capital costs on a forward-looking basis from an economic perspective. The FCC recognized this in the Local Competition Order (11 FCC Rcd at 15856, ¶ 703), which states, "[w]e conclude that an appropriate calculation of TELRIC will include a depreciation rate that reflects the true changes in economic value of an asset and a cost of capital that appropriately reflects the risks incurred by the investor."[19]

72. For a more thorough discussion of depreciation, please see the Philip Naughton reply affidavit, filed concurrently herewith.

VIII. Common Costs

73. Common costs were identified using SWBT's most recent historical costs (1995 data at the time studies were produced), to develop a ratio as a basis for projecting its forward-looking common costs. The historical costs were adjusted to exclude retail costs and a portion of executive, planning, and general and administrative costs. These costs represent costs incurred by SWBT's operations as a whole. That is, they are common to all services and elements, excluding those costs not attributable to the provision of retail

[19] For additional information concerning SWBT's position concerning economic lives for UNEs rather than prescribed lives, see Joint Reply Comments (SBC Communications Inc., Bell Atlantic, BellSouth Corporation, GTE Service Corporation and its affiliated domestic telephone operating companies), 1998 Biennial Regulatory Review – Review of Depreciation Requirements For Incumbent Local Exchange Carriers, et al., CC Docket Nos. 98-137; 99-117; ASD File No. 98-26, § II.B (FCC filed Apr. 28, 2000).

services, such as billing and marketing costs. This fixed allocation method represents a percentage markup over the directly attributable forward-looking costs.[20]

74. The key to the *common factor* is the relationship of *common costs* to the TELRIC of the firm (i.e., *total expenses*). These *total expenses* include operating expenses, capital-related costs of return on capital, depreciation and income tax expenses, but exclude those costs attributed to common. This relationship of *common cost* to *total expenses* is critical to understanding not only how the factor is developed, but also to how the factor is applied. In short, *common costs* represent the numerator, and *total expenses* (excluding common costs) represent the denominator. The resulting factor (*common cost / total expenses = common factor*) is then applied to the forward-looking TELRIC cost of the UNE to provide the basis for the forward-looking UNE price.

75. Mr. Baranowski states that Missouri's common cost factor is too high because it does not consider merger savings and does not use revenues as the denominator in the calculation of the factor. Both allegations are unfounded.[21] The calculation of the common cost factor is total common expenses over total expenses less common expenses. This factor is then applied to the TELRIC cost to determine the UNE price. Merger savings would not only affect the numerator, but also the denominator in this calculation.

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[20] SWBT's development of a common cost allocation method is in compliance with the FCC's Forward-Looking common cost principles enunciated in the Local Competition Order, 11 FCC Rcd at 15851-54, ¶¶ 694-698.

[21] AT&T's Baranowski Decl. ¶¶ 23-24. DOJ, in its Evaluation Report, expresses some concern about SBC's common cost allocator because it is higher than the allocator used in Texas and Kansas. DOJ Evaluation at 17-18. The DOJ fails, however, to otherwise indicate why the Missouri allocator is improper for Missouri – or compare the Missouri allocator to other states such as Illinois, California, Ohio, Connecticut, among others.

76. Merger cost savings potentially affect all parts of the business. Some administrative functions may be centralized, purchasing decisions may be more cost effective, and a variety of operational processes may be made more efficient. It is not clear that the effect of all costs declining would be that common costs would decline more than overall costs. Mr. Baranowski has provided no solid evidence that common costs will decline and hence reduce the common cost factor for Missouri.

77. Mr. Baranowski compares Missouri's common cost factor to those of other states and asserts that "a comparison of Missouri's common cost factor to those in other states confirms that SWBT's common cost factor is too high." AT&T's Baranowski Decl. ¶ 25. The comparison he makes is to the two lowest common cost factors in the thirteen-state SBC region. Common cost factors for all the thirteen SBC states range from a low of 10 percent in Kansas to a high of ** ** in Illinois. Specifically, California's common cost factor is ** **, Ohio's is ** **, and Connecticut's is ** **.

78. It should be noted that the MPSC Staff reviewed the Missouri common cost factor as part of the 16-week review of SWBT's cost studies. The Staff report states, "Staff has no specific concerns or proposed modifications to this study, other than Staff's proposed modifications affecting all studies (Cost of Money, Depreciation, etc.)." Costing and Pricing Report at 125. These other modifications did not affect the Common Cost Factor Study, and SWBT was allowed to continue to use 16.47 percent as its common cost factor in Missouri.

79. Mr. Baranowski also states that there is an error in the way SWBT calculates its common costs because the denominator should be total revenues rather than total expenses. See AT&T's Baranowski Decl. ¶ 24. His reasoning for this is that the TELRIC contains a "profit," resulting in a mismatch due to the denominator's failure to contain a cost of money component.

80. The denominator SWBT used was total expenses for the state of Missouri, which includes the costs for depreciation, income taxes, and the debt portion of the cost of money. Because the equity portion of the cost of money is excluded in total expenses, there is a *slight* mismatch. However, Mr. Baranowski's proposed remedy of using total revenues as the denominator would severely understate the common cost factor, egregiously violating TELRIC. Using total revenues as the denominator would be entirely inappropriate because total revenues also recover the cost of money and income tax requirements associated with assets attributable to marketing and services, common operations, and network operations general supervision. Using total revenues would understate the factor and the total common costs computed applying the factor to TELRIC.

81. Mr. Baranowski's Exhibit 2 shows his computation of common costs for a number of companies using total revenues as the denominator. This exhibit is irrelevant because total revenues should not be used as the denominator, for the reasons stated above, and his exhibit comes nowhere near estimating what the common costs would be for Missouri

IX. Power, Engineering, Buildings – ACES Factors

82. Mr. Baranowski states that the ACES factors for power, buildings, engineering, etc. "inflate[]" the UNE rates and violate TELRIC principles. See AT&T's Baranowski Decl. ¶ 26. The derivation of these factors starts with historical information, but adjustments are made to the factors to make them forward-looking. For example, the power factor is calculated as power investment, over-booked investment, multiplied by a current cost to booked cost ratio (CC/BC). This CC/BC ratio converts the investment from historical to current. In this manner, a different, and in most cases lower, factor results.

83. The Staff disagreed with SWBT's methodology for calculating the building factor and made adjustments to the factor calculation. Costing and Pricing Report at 80. The Staff also recommended removing the power factor from the BRI, DS-1, and PRI studies. Costing and Pricing Report at 10.

84. Consistent with 47 C.F.R. § 51.505(d)(1), SWBT did not include embedded costs in its costs for unbundled network elements. SWBT does look to historical data for current efficient technologies, already in use in the network, to predict future costs for these same efficient technologies. SWBT does this to supply verifiable credible evidence. The resulting costs developed from this data represent forward-looking costs. For example, SWBT did not include the costs associated with older technology, such as analog end office switches or analog carrier systems.

85. SWBT's forward-looking methodology examined current costs solely as a basis for estimating future costs. For instance, SWBT looked at the ratio of current maintenance

expenses to current investment for fiber facilities to calculate future fiber maintenance costs. Likewise, SWBT considers current maintenance expenses for digital switches as the best projection for future digital switching maintenance expenses. From current expenses, as a ratio to current investments, factors were developed representing these current efficient relationships as the best predictor of future costs for these same efficient technologies. These factors are then used with total forward-looking investment to calculate forward-looking costs.

86. AT&T states that the nonrecurring charges in Missouri "are not remotely cost based." AT&T's Baranowski Decl. ¶ 44. Mr. Baranowski states that SWBT's nonrecurring costs contain inefficient processes, reflect double recovery of processes, and were supported by no competent evidence. See AT&T's Baranowski Decl. ¶¶ 44-45. This is another mischaracterization of SWBT's cost studies. Mr. Baranowski also mischaracterizes the Staff's review of the nonrecurring studies.

87. SWBT developed a manual service order cost study that was used as the basis for its proposed service order charge. This study was rejected by the MPSC and the service order rate was established at $5.00. This was a drastic reduction from what SWBT had proposed.

88. In summary, SWBT's original cost models and cost studies for Missouri, with some revisions, are compliant with the Act and the FCC's TELRIC methodology and principles. These models and studies, along with evidence presented by other parties of what are the appropriate TELRIC-based costs, were appropriately relied upon by the

MPSC in setting prices for interconnection and access to unbundled network elements. The increment that forms the basis for SWBT's TELRIC studies is the entire quantity of the network element provided. All of the costs associated with providing the element are included in the incremental cost. The TELRIC costs are only forward-looking, incremental costs and are based on the incumbent LEC's existing wire center locations and most efficient technology, as required by the FCC.

X. SWBT's Models Incorporate TELRIC Principles and Were Utilized By the State Commission and CLECs To Develop Cost Studies

89. All of the cost models filed by SWBT in Missouri, Kansas, Oklahoma, and Texas used the same methodology for identifying TELRIC costs. Each state commission first focused its proceedings on choosing the appropriate cost models that best embodied the FCC's TELRIC-pricing principles. In each of these proceedings, the CLECs and other interested parties either filed or had opportunities to file their own cost models that, from their perspective, embodied the FCC's TELRIC principles. In each instance, SWBT's cost models were chosen as the appropriate models to support TELRIC-based prices. Once the appropriate TELRIC cost models were established, each state commission conducted further proceedings to determine the appropriate inputs for each of the various models. The outcomes of each of these proceedings, which are discussed later in this affidavit, produced different costs for Missouri, Kansas, Oklahoma, and Texas.

90. The MPSC developed final rates based on the very same models, but used different input adjustments to SWBT's FCC TELRIC-based cost models. Even when these state commissions made rate adjustments, sometimes without clear discussion as to each

adjustment, the underlying foundation for the rates still remained the SWBT's TELRIC-based cost models and cost studies. Throughout these various proceedings and resulting orders, the other parties to these proceedings had many opportunities to contest the models and the inputs. It can hardly be argued now, after many years of hearings and orders, that these models are not TELRIC-compliant and therefore, result in rates that are not based upon the FCC's TELRIC rules.

XI. Reasons for Differences in TELRIC Costs Between States

91. AT&T, WorldCom, and the DOJ question the disparities between the recurring rates for unbundled two wire analog loops in Missouri, Kansas, Oklahoma, and Texas. SWBT's TELRIC cost studies clearly show that costs vary among the states, suggesting that the rates should be different as well. To demonstrate this, SWBT performed an analysis[22] of the recurring TELRIC costs for two-wire, unbundled 8 dB analog loops in Missouri, Kansas, and Texas focusing on differences in the key cost elements or drivers that contribute to differences in loop costs among these states. Chart 1 of Attachment A shows the monthly recurring costs for two-wire, analog UNE loops in Missouri, Kansas, and Texas as *originally* filed in these states.

92. There are numerous cost drivers that influence loop costs, ranging from loop lengths to cable costs per foot, and from the mix of cable types to utilization factors. Table 1 of

[22] The summaries of the charts are filed as Attachment A to this affidavit. The analysis is filed as Attachment B to this affidavit.

Attachment B shows the key cost drivers, which cause loop costs by geographic zone to vary among the states.

93. Geographic zones in Missouri and Kansas were defined in terms of the size of exchange areas, measured in terms of the number of lines per exchange. Zone 1 rural exchanges in Kansas included exchanges with up to 5,999 lines. In Missouri, Zone 1 included exchanges up to 4,999 lines. The Texas Zone 1 was defined in terms of wire centers, and included wire centers up to 20,000 lines. These differences in zone definitions resulted in loop populations with varying loop lengths, cable costs and other cost driver values. As a consequence, loop costs varied among the states, as they do among the zones within a state. Consequently, Missouri and Kansas UNE loop costs are much greater than those in Texas, especially in the rural zone where there is a marked difference in the definition of the rural zone in terms of number of lines.

94. More specifically, Kansas rural loops in Zone 1 have longer distribution cable lengths and higher cable costs per pair foot (most likely due to smaller average cable sizes) than those in Missouri and Texas. In addition, the Kansas fill factor for distribution cable is slightly higher than Missouri's, somewhat lowering the cost of spare capacity cost relative to Missouri. Texas has the shortest distribution cable length and lowest cable cost per pair foot among three, which produces the lowest loop costs.

95. As shown in Table 1 of Attachment B, which is a table of all cost driver values from the loop cost studies, there are other differences in Zone 1 and the other zones. These are legitimate differences in costs among the states, which derive in part from geographic

zone differences, but also from real differences in customer distances from wire centers, mixes of cable, and fill factors among other factors.

96. In Kansas, Missouri, and Texas, the Commissions modified SWBT loop costs during the arbitration processes by ordering changes to specific cost driver values. These changes substantially lowered the original loop costs as shown for Kansas and Missouri in Chart 2 and 3 of Attachment A.

97. In Kansas, the Commission adjusted SWBT's definitions of distance bands (kilofeet bands) such that average loop lengths were reduced. Copper cable costs were reduced when larger gauge cable sizes were removed. Distribution cable fill factors were increased, lowering the costs of spare capacity. In addition, the lengthening of service lives, reduction of the cost money and maintenance expenses lowered annual cost factors. As a result, the Zone 1 loop cost was decreased by approximately two-thirds. Zone 2 and 3 loop costs also were substantially reduced. The MPSC made changes to the loop study inputs. The MPSC also ordered an additional zone, made up of Springfield, Missouri wire centers. This additional zone was carved out of the 3 original zones. See Att. B, Table 1 for specific changes in cost drivers.

98. The Texas Commission made input changes during the Mega Arbitrations. Chart 4 of Attachment A shows the impact of the Texas Public Utility Commission adjustments, and Table 1 of Attachment B compares the cost drivers underlying Zone 1 loop costs in Texas as originally filed and after arbitration.

99. The net result of these changes was to substantially alter the original TELRIC values presented by SWBT in Missouri, Kansas, and Texas. *After the state-specific arbitration adjustments, TELRIC prices for the two-wire, analog loops lost their comparability among the states.*

100. In addition, common cost factors allowed by the Commissions varied among the states, which further affected the relationship of UNE rates. As a consequence, the current monthly rates for two-wire, analog loops have no relationship to original TELRIC prices, which reflected reasonable differences in costs among states. See Att. A, Charts 5-7.

101. There are also differences in the costs of nonrecurring elements across the states. These differences occur for two reasons. First, adjustments were made to the nonrecurring studies; and second, in the case of the loops in Texas, nonrecurring activities were omitted from the nonrecurring cost studies because of the proposed application of the Central Office Access Charge ("COAC") and the Trip Charge. Although the COAC ($16.35) and Trip Charge ($14.30) were proposed in addition to the nonrecurring rate for the 8 dB loop, the TPUC denied the proposal and set the nonrecurring loop rate at $15.03.

102. The state commission ordered adjustments to the nonrecurring cost studies differed by state as well. Kansas and Texas each ordered different downward adjustments to the labor rates. Kansas adjusted the fallout rate that applied to manual processes. In many cases, the resulting costs cannot be mapped to the ordered rates because the state commissions then made further downward adjustments that were not explained. This

occurred in Texas and Kansas. In Missouri, the nonrecurring costs were reduced by 50 percent.

103. These differences across states cannot and should not be viewed as an indication that the FCC's TELRIC rules were not followed. Much of the difference represents different interpretations of how to estimate forward-looking costs. All three states used a TELRIC standard, but they differed in how much they wished to predict future costs of a most efficient network. All of the cost proposals were forward-looking estimates. They differ considerably regarding the degree to which the different parties and state commissions thought costs would decline over time.

104. The Act, as interpreted by the U.S. Supreme Court, provided that the FCC "has jurisdiction to design a pricing methodology," and "it is the States that will apply those standards and implement that methodology, determining the concrete result in particular circumstances."[23] Under such a statutory scheme, it is expected that the costs and prices would vary among the states. Moreover, the FCC's TELRIC-pricing principles represent a methodology that, when implemented, was expected to yield differing costs in each state jurisdiction. The FCC acknowledged that costs and the resulting prices would result in variations between the states in its Local Competition Order, when it established default proxies for particular network elements. For example, with respect to unbundled

[23] AT&T Corp. v. Iowa Utils. Bd., 525 U.S. at 384-385 (1999), decision on remand, Iowa Utils. Bd. v. FCC, 219 F.3d 744 (8th Cir. 2000), cert. granted, 121 S. Ct. 877 (2001). TELRIC does not, in and of itself, produce rates; see Memorandum Opinion and Order, Application by Bell Atlantic New York for Authorization Under Section 271 of the Communications Act To Provide In-Region, InterLATA Service in the State of New York, 15 FCC Rcd 3953, 4084, ¶ 244 (1999) ("New York Order") (quoting Local Competition Order, 11 FCC Rcd at 15558-15559, ¶ 114) ("[W]hile TELRIC consists of 'methodological principles' for setting prices, states retain flexibility to consider 'local technological, environmental, regulatory, and economic conditions.'").

loops the FCC established default proxies, based on a forward-looking cost-model that is "reasonably close to the forward-looking economic cost methodology that we require to be used," Local Competition Order, 11 FCC Rcd at 15894-95, ¶ 792:

Texas:	$15.49
Kansas:	$19.85
Oklahoma:	$17.63
Missouri:	$18.32

47 C.F.R. § 51.513(c)(1), Table A. The FCC reaffirmed the notion that the proper application of TELRIC-pricing principles would result in different rates in different states in its New York Order.[24]

105. A similar regulatory process occurs for retail services. For example, Speed Call 30, a retail service offered to residence and business customers, has different costs and rates in each state. In Texas, SWBT's approved monthly incremental cost of providing Speed Call 30 is ** **, and the approved rate is $2.00. In Kansas, SWBT's incremental cost of Speed Call 30 is ** **, and the approved rate is $4.00. In Oklahoma, the cost is ** **, and the approved rate is $6.00. This provides yet further evidence that differences in costs and prices between the states are to be expected, and cannot lead to the conclusion when TELRIC-based cost studies are employed, that differences in prices between the states evidence that those prices are not based upon TELRIC.

[24] See New York Order, 15 FCC Rcd at 4084, ¶ 244; see also AT&T Corp. v. FCC, 220 F.3d at 615 (DC Cir. 2000) ("In other words, while state commissions use TELRIC to establish rates, application of TELRIC principles may result in different rates in different states.")

XII. Conclusion

106. SWBT filed TELRIC-based cost studies with the MPSC. These cost studies were based upon the forward-looking costs of providing interconnection and unbundled network elements relying on the most efficient technology and SWBT's wire centers. These TELRIC-based cost studies demonstrate that the cost of providing interconnection and unbundled network elements is different in Missouri, Kansas and Oklahoma, and Texas. The MPSC conducted an extensive review of SWBT's proposed costs studies and the TELRIC-based cost studies proffered by other parties. After this review, the Missouri Commission set prices based upon these TELRIC-based cost studies – after making significant TELRIC-based modifications. Accordingly, the prices contained in the M2A are TELRIC-based.

XIII. Recommendation

107. Based on the foregoing evidence, the costs provided by SWBT for Missouri meet the requirements of the Act as well as the forward-looking requirements of the FCC's Local Competition Order. SWBT recommends that the FCC make such a finding of fact, and recognize that SWBT has complied with the checklist item.

This concludes our affidavit.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Executed on May 10, 2000.

Barbara A. Smith

Barbara A. Smith

Director - Cost Analysis and Regulatory

STATE OF Missouri
CITY OF St. Louis

Subscribed and sworn to before me
this 10 day of May, 2000.

Susan M. Truesdell

Notary Public

My commission expires:

SUSAN M. TRUESDELL
Notary Public – Notary Seal
STATE OF MISSOURI
St. Louis County
My Commission Expires: Aug. 31, 2003